REMARKS

The last Office Action has been carefully considered.

It is noted that Claims 1-6 are rejected under 35 USC 102(b) over the U.S. patent to Haeberli.

Also, the claims are objected to.

In connection with the Examiner's objections and rejections, applicants amended Claim 1, the broadest claim on the file.

It is respectfully submitted that Claim 1 clearly and patentably distinguishes the present invention of the prior art applied by the Examiner.

In Claim 1 it has been specifically stated now that the sensor elements are magnetoresistive XMR sensor elements, as was defined previously in Claim 6. Moreover, the expression "gradiometer arrangement" has been further clarified, by insertion of corresponding portions from the specification, in particular from second paragraph on page 2. A gradiometer arrangement is characterized in that the differential signals or both sensor elements are used for movement detection. Because of a difference formation, a homogenous

magnetic field does not induce any bridge signal. However, a variation of the magnetic field produces a bridge signal.

The feature that both magnetoresistive XMR sensor elements are arranged symmetrically relative to the central axis between the two parallel magnets can be seen for example in Figure 1. There the central axis extends between both magnets 2, 3 in correspondence with the B field direction, identified with a corresponding arrow with a distance a/2. By arranging the sensor elements 5, 6 symmetrically to this central axis, the important feature of Claim 1 is obtained, namely the offset of the output signal of the sensor elements in the gradiometer arrangement is minimized.

Turning now to the reference and in particular to the patent to Haeberli, the magnetic sensor system in accordance with the present invention as now defined in amended Claim 1 clearly and patentably distinguishes from the system disclosed in the reference. For determining the angle, in particular Hall sensors are used as magnetic flux sensors, as explained in column 1, line 64; column 2, line 52. In accordance with Claim 1, to the contrary, XMR sensors (GMR-giant magnetoresistance), AMR (anisotrope magnetoresistance) effect or TMR (tunnel magnetoresistance) are utilized. The XMR sensors, contrary to Hall sensors, provide a detection of the so called "in-plane" components of the magnetic field, as disclosed for example in third paragraph on page 1 of the specification. A further difference of the magnetic system in accordance with the

present invention from the magnetic system disclosed in the reference defined in amended Claim 1 is that the reference does not disclose any gradiometer arrangement.

The original claims were rejected over this reference as being anticipated. In connection with this, it is believed to be advisable to cite the decision In Re Lindenman Maschinenfabrik GmbH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir 1984) in which it was stated:

> "Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim."

Definitely the reference does not disclose each and every element of the magnetic sensor system of the present invention as now defined in amended Claim 1.

It is therefore respectfully submitted that the anticipation rejection applied against the original claims should be considered as not tenable with respect to amended Claim 1 and should be withdrawn.

It is respectfully submitted that the new features of the present invention as defined in amended Claim 1 also cannot be considered as obvious.

The XMR sensors (GMR, AMR or TMR sensors) provide a completely different measuring principle than Hall sensors disclosed in the reference, since the XMR sensors detect the so called "in-plane" components of a magnetic field in the sensor element, as explained for example in column 1, line 66 of the reference "sensitive to parallel components of the magnetic field."

Because of the completely different sensor principles, a person of ordinary skill in the art which is familiar with XMR sensors would not come to a conclusion to use these sensors in an arrangement disclosed in the patent to Haeberli.

In order to arrive at the applicant's invention from the reference, the reference has to be fundamentally modified, and in particular by including into it the new features of the present invention which are now defined in amended Claim 1 and were first proposed by the applicants. However, it is known that in order to arrive at a claimed invention, by modifying the references the cited art must itself contain a suggestion for such a modification.

This principle has been consistently upheld by the U.S. Court of Customs and Patent Appeals which, for example, held in its decision In Re Randol and Redford (165 USPQ 586) that:

> Prior patents are references only for what they clearly disclose or suggest, it is not a proper use of a patent

> as a reference to modify its structure to one which prior art references do not suggest.

It should be further mentioned that in accordance with the present invention the offset minimization is desired since the XMR sensor elements with respect to the minimization do not get into saturation. Sensor elements with a linear characteristic, such as for example GMR-spins-valves can be used as an example for an XMR element.

The above mentioned advantageous results are not achieved by the device disclosed in the reference.

As explained herein above, the present invention provides for the highly advantageous results. It is well known that in order to support a valid rejection in the art must also suggest that it would accomplish applicant's results. This was stated by the Patent Office Board of Appeals, in the case Ex parte Tanaka, Marushma and Takahashi (174 UPSQ 38), as follows:

> Claims are not rejected on the ground that it would be obvious to one of the ordinary skill in the art to rewire prior art devices in order to accomplish applicant's result, since there is no suggestion in prior art that such a result could be accomplished by so modifying prior art devices.

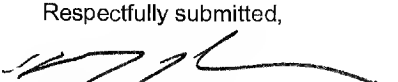
In view of the above presented remarks and amendments it is believed that Claim 1, the broadest claim on file, should be considered as patentably distinguishing over the art and should be allowed.

As for the dependent claims, these claims depend on Claim 1, they share its allowable features, and therefore it is respectfully submitted that they should be allowed as well.

Reconsideration and allowance of the present application is most respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place this case in condition for final allowance, then it is respectfully requested that such amendments or corrections be carried out by Examiner's Amendment, and the case be passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he is invited to telephone the undersigned (at 631-549-4700).

Respectfully submitted,



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